

11.0 Earthwork

This section includes the requirements for earthwork for the Project and shall be in accordance with the Contract Documents.

11.1 Administrative Requirements

11.1.1 Standards

The Contractor shall design and construct the Project in accordance with the Contract, including the Modification of Standard Special Provisions in Book 2, Section 20, requirements of the standards in the documents listed in Table 11-1 and those referenced in Book 3. The Contractor shall use the latest adopted edition at the time of the Proposal Due Date.

Table 11-1 Standards

| Author or Agency | Title |
|---|---|
| Colorado Department of Transportation (CDOT) | <i>Standard Specifications for Road and Bridge Construction (Standard Specifications)</i> |
| American Association of State Highway and Transportation Officials (AASHTO) | <i>Standard Specifications for Transportation Materials and Methods of Sampling and Testing</i> |
| CDOT | <i>Field Materials Manual (FMM)</i> |
| CDOT | <i>Geotechnical Design Manual (GDM)</i> |
| CDOT | <i>Mechanistic-Empirical (M-E) Pavement Design Manual</i> |
| Federal Highway Administration (FHWA) | <i>Design of Mechanically Stabilized Earth Walls and Reinforced Slopes, Geotechnical Engineering Circular No. 11, Report No. FHWA-NHI-10-024, 2009 (GEC 11)</i> |

11.2 Design Requirements

11.2.1 Submittals

All submittals shall be prepared, Reviewed, and submitted in accordance with the requirements set forth in Book 2, Section 3-Quality.

11.3 Construction Requirements

11.3.1 Clearing and Grubbing

The trees, logs, limbs, stumps, brush, trash, and other unsuitable materials that are cleared and grubbed from the Project shall be removed from the Site to an off-Site location by the Contractor.

11.3.2 Excavations and Embankments

11.3.2.1 Material Requirements

Any excavation or embankment Work for this project shall be done in conformance with Section 203 of the Standard Specifications.

The top two feet of subgrade immediately under any new Pavement Structure shall have a minimum resistance value (R-value) of 40 when tested by the Hveem Stabilometer. The minimum horizontal limits for this material shall be the outer limits of the Pavement Structure plus two feet on each side.

All other new embankment material placed for this project shall have a minimum R-value of 40 when tested by the Hveem Stabilometer.

11.3.2.2 Reuse of Materials

Per the Standard Specifications, the Contractor shall be allowed to use broken concrete or broken asphalt or asphalt millings as embankment material as Accepted by CDOT and shall submit the proposal to CDOT a minimum of one month before any pavement and pavement related Work commences.

Asphalt millings, reclaimed asphalt pavement (RAP), or asphalt in any form shall not be substituted for ABC Class 6.

The existing subgrade will be allowed to remain in-place, with the Acceptance of CDOT, if it meets all other requirements herein. The Contractor shall submit the proposal to CDOT a minimum of one month before any pavement and pavement related Work commences.

11.3.2.3 Available Potential Source of Material

An available potential source of material has not been identified for this Project.

11.3.2.4 Geotextiles

Geotextiles shall meet the requirements for Geotextile Class I (Per AASHTO M 288) and be appropriate for soil stabilization and separation applications. The geotextile shall be selected from the New York State Department of Transportation list of approved products available at:

<https://www.dot.ny.gov/divisions/engineering/technical-services/technical-services-repository/alme/geo.html>

Locations requiring geotextile installation shall be as Accepted by CDOT and the Contractor shall submit the proposal to CDOT a minimum of one month before any pavement and pavement related Work commences. Where geotextile installation is required, in-situ soil shall be scarified to a depth of at least 12 inches and then compacted, following requirements of the Standard Specifications.

The geotextile shall be installed per manufacturer's recommendations.

11.4 Deliverables

At a minimum, the Contractor shall submit the following to CDOT for Review, Approval, and/or Acceptance:

Table 11-11-2: Deliverables by the Contractor

| Deliverable | Review, Acceptance or Approval | Schedule |
|---|--------------------------------|--|
| Use of broken concrete or broken asphalt or asphalt millings as embankment Material | Acceptance | Proposal shall be submitted a minimum of one month before any pavement and pavement related Work commences |
| The existing subgrade will be allowed to remain in-place | Acceptance | Proposal shall be submitted a minimum of one month before any pavement and pavement related Work commences |
| Locations requiring geotextile installation | Acceptance | Proposal shall be submitted a minimum of one month before any pavement and pavement related Work commences |

All deliverables shall also conform to the requirements of Book 2, Section 3.